

## ABSTRACT

A photocatalytic reaction is a reaction that occurs only on the surfaces of particles and, therefore, the particle surfaces must be uniformly irradiated with the ultraviolet light. However, a specific apparatus is required and a recovery cost is high in the exchange of photocatalyst particles. Furthermore, it is difficult to apply to a large reactor and, in particular, it is difficult to apply an external light source system. These problems are overcome.

An EL fiber having a function of emitting ultraviolet light or visible light with a wavelength of 400 nm or less is characterized in that the cross-sectional structure of the fiber includes an internal electrode located at the center in a radius direction, an internal insulating layer disposed around the internal electrode, a light-emitting layer, an external electrode, and a protective layer disposed on an outermost surface, and the light is emitted by application of an alternating current electric field between the electrodes.